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FEDERAL TAXATION OF INCOME FROM THE PRODUCTION OF MINERALS

The policy of post-war taxation which is adopted by the federal government probably will have a more direct and vital influence on the general well-being of the country than any other governmental domestic policy. The war is over but not yet paid for, and it will be many years before the huge national debt of some twenty-four billions of dollars is liquidated. It is, therefore, of prime importance to every citizen to consider without prejudice what is the most equitable and least oppressive method of raising the enormous funds necessary to meet the greatly increased operating expenses of government, interest on the public debt, and the sinking fund to redeem it.

As a result of some two years' experience in applying the income-tax law to many kinds of businesses and individuals, while connected with the Technical Division of the Income Tax Unit at Washington, the author is convinced that the only sufficiently productive and most equitable method of raising the bulk of the government's revenue, is by means of the income tax together with its special form, the excess profits tax. Certain features of the law, however, are open to serious criticism.

Beyond doubt, the most urgent need of the present law is *greater simplicity.* Its unnecessary complexity has caused the

taxpayers of this country great expense, delays, and irritation. To be sure no law involving the determination of invested capital can be simple. This phase of tax administration must remain complex in some cases, but as each year passes during which the law is in force, the computation of invested capital becomes more intelligible, and the period of initial instruction to the taxpayers is now past. The great criticism of the law lies in its needless complexity, which is caused by many special provisions interspersed throughout the statute which aim at giving relief from taxation to certain classes of taxpayers.

Among these special relief sections and "cushions," the portions of the law which deal with the taxation of income derived from mines and from oil and gas wells are among the most unfortunate. In the following pages attention is called to some of the provisions dealing with this class of income which are most obviously in need of amendment if the law is to accomplish its purpose of raising large revenues with a minimum of injustice, inequality, and unnecessary administrative labor.

The special surtax computation.—Section 211(*b*) under Part II of Title II of the act of 1918 provides as follows:

> In the case of a bona fide sale of mines, oil or gas wells, or any interest therein, where the principal value of the property has been demonstrated by prospecting or exploration and discovery work done by the taxpayer, the portion of the tax imposed by this section attributable to such sale shall not exceed 20 per centum of the selling price of such property or interest.

This is the first of the many special provisions of the law which give special privileges to those taxpayers who are engaged in the business of developing the natural resources of the country. The effect of this clause is shown by the following illustration.

Assume an individual oil operator obtains a lease on 100 acres of unproved land, and strikes oil in large quantity on the second attempt. The first well cost $20,000 and was a failure. The second cost $30,000 and proved the presence of a deep, very productive sand. As a result of this discovery the lease multiplies many times in value, and in the year 1920 is sold to a corporation for $250,000. The lease was obtained for a royalty consideration of one-eighth of the oil produced, the cost of drilling the wells was $50,000, so that

the profit from the sale of the lease amounts to $200,000. If this profit were taxed in the regular manner under section 211 (*a*), the surtax would amount to $77,510, but when the surtax is computed under subdivision (*b*) it amounts to 20 per cent of the selling price or $50,000, which saves this taxpayer $27,510. If he had built up a manufacturing business through long years of effort, and had sold out in 1920 at a profit of $200,000, he would have to pay the full surtax of $77,510, which is $27,150 more than the oil operator pays.

What is the explanation of such discrimination? Why should the discoverer of an oil well, who makes his profit in a day, as it were, be favored over the manufacturer or merchant who makes his wealth after years of effort in building up "good-will"? It would appear more reasonable to favor the taxpayer whose profit is the result of a slow and laborious process of building up his trading or manufacturing business, because this profit usually represents the work of years. The profit of the oil well discoverer, on the other hand, is either made or lost when the drill hits the sand. If luck is with him, he does not need any limitation of tax, because his profits are large, and if luck is against him, the limitation of tax does him no good. Any "wildcatter" would be glad to pay the regular surtax, if he could only achieve success.

The intention of Congress, no doubt, was to stimulate the oil production of the country, but if such were the only reason, why are mines given similar treatment? Besides, does such a provision actually stimulate the discovery and production of oil? Out of ten efforts to find oil, probably eight fail and lose the capital invested. Does the law assist the eight unlucky men, who perhaps have sunk their last dollar in a dry hole? Not at all, that is their risk, and they alone must bear the loss. But the two who gain the coveted goal are given favored treatment, over all other taxpayers, *and these two are the very ones who do not need it*, because their profits are so large, that they can well afford to pay the tax, to which all other taxpayers are subject. If the government really desires to stimulate the discovery of new oil wells, it would be far more to the point to share in a measure the losses of the unsuccessful rather than to favor the successful, who do not need financial

assistance. In fact it is not probable that this provision has actually stimulated oil discovery in the slightest, because there never yet was an oil prospector who gave up his occupation because of thinking about the surtax he would have to pay if he struck oil.

A careful consideration of this section of the law leads one to the conviction that it is wholly indefensible.

Discoveries under the excess profits tax.—The last section in the law is another example of special treatment. It reads as follows:

SECTION 337. That in the case of a bona fide sale of mines, oil or gas wells, or any interest therein, where the principal value of the property has been demonstrated by prospecting or exploration and discovery work done by the taxpayer, the portion of the tax imposed by this title attributable to such sale shall not exceed 20 per cent of the selling price of such property or interest.

The provision and purpose of this section are the same as those of section 211 (*b*), which has just been discussed except that the 20 per cent limitation applies to the excess profits tax levied under Title III, whereas the limitation in section 211 (*b*) applies to the surtax levied under Title II of the revenue act. For the reasons set forth in the discussion of section 211 (*b*) it is clear that this cushion in the law, placed there for the benefit of the oil and mining interests, cannot be justified, and should be repealed. It is sheer favoritism and unjust discrimination to grant such relief from taxation as this section provides to those corporations engaged in the mining, oil, and gas industries, and not grant it to the thousands of corporations engaged in other industries.

The depletion deduction.—The provisions governing depletion deductions for corporations in section 234 (*a*) (9) are identical with the deductions for depletion allowed individuals in section 214 (*a*) (10), and the criticism which follows applies to both individuals and corporations. The law provides:

SECTION 234. (*a*) That in computing the net income of a corporation subject to the tax imposed by section 230 there shall be allowed as deductions:

(9) In the case of mines, oil and gas wells, other natural deposits, and timber, a reasonable allowance for depletion and for depreciation of improvements, according to the peculiar conditions in each case, based upon cost including cost of development not otherwise deducted: Provided that in the case of such properties acquired prior to March 1, 1913, the fair market value

of the property (*or the taxpayer's interest therein*) on that date shall be taken in lieu of cost up to that date. . . . . *In the case of leases the deductions allowed by this paragraph shall be equitably apportioned between the lessor and lessee.*

In contradistinction to preceding laws, the revenue act of 1918 for the first time, allowed a lessee to set up a valuation of his lease as of March 1, 1913 for the purpose of depletion. The act of 1917 permitted depletion to be taken only by the fee-owner or lessor, and a lessee was denied any allowance for depletion. This specific provision of the 1917 law was sustained by the United States Court of Appeal for the Northern District of Ohio in the case of *Harry Weiss, Collector* vs. *Mohawk Mining Company,* decided March 2, 1920.

The effect of allowing a lessee to set up a March 1, 1913 valuation of his lease for the purpose of depletion is shown by the following illustration. Assume the Apex Coal Company acquired a fifty-year lease in 1906 on 1,200 acres of bituminous coal land in Illinois, in consideration of the agreement to pay the lessor a royalty of 5 cents per ton of coal taken out. Shafts were sunk and development work gotten under way, with the result that by 1913 the business was on a paying basis with an annual production of 250,000 tons. During these first three years the development and exploration work had been carried to a point which disclosed that the territory was underlaid with a coal vein varying from 4 to 5 feet in thickness, with an estimated recovery of 5,000 tons an acre, and on March 1, 1913 the recoverable coal in the ground was estimated to be 5,000,000 tons.

The Apex Coal Company thus found itself on March 1, 1913 possessed with a valuable lease, granting it the right to extract 5,000,000 tons of coal for the payment of a royalty of only 5 cents a ton, whereas the rate of royalty commonly prevailing in that locality on March 1, 1913 was 15 cents a ton. In other words, the lessee corporation saves 10 cents on every ton mined, over what would have been the royalty if the lease had been acquired in 1913. This saving of 10 cents a ton amounts to a yearly saving of \$25,000 on the annual output of 250,000 tons, or a total saving during twenty years, the life of the mine, of \$500,000. The revenue act of 1918, by virtue of the last sentence of paragraph (9), quoted

above, now permits the lessee, the Apex Coal Company, to capitalize this total estimated saving and set it up on the books as a depletable asset.

The method of arriving at the March 1, 1913 valuation of this asset is the present-value method. Since the annual saving is $25,000 for twenty years, the problem is to determine the present value of an annuity of $25,000 for twenty years at a safe rate, usually 4 per cent. By reference to an annuity table it is found that this present value is $339,757.50 which can be set up by the lessee as the value of his lease on March 1, 1913, and can be depleted at the rate of 6.795 cents a ton or $16,987.50 annually. The 1918 law thus gives the lessee in this case an annual gift of tax-free income to the amount of $16,987.50.

It is unfortunate that the framers of the law did not follow the principles laid down in the revenue act of 1917 which have the double merit of being sustained by the Supreme Court and also following conservative accounting practice.

In the case of the *Biwabik Mining Company* vs. *The United States*[1] decided May 20, 1918, the Circuit Court of Appeals upheld the lessee's claim for depletion on his leasehold valuation in these words:

> We think that the lessee of such property and under such a lease is as much entitled as is the owner of the fee to treat the value of his interest in the ore in the ground at the beginning of the tax period as his capital. . . . . Such a lease as applied to this situation is in every substantial way *pro tanto* a purchase.

The Supreme Court, however, held the opposite view concerning the nature of a lease, and concurred with the District Court which had held:

> That the leases in question were not conveyances of ore in place, but were grants of the privilege of entering upon the premises and mining and removing the ore, and consequently, that the deduction claimed (depletion allowance) as being one from capital investment could not be allowed.

The Supreme Court by this decision denied to the lessee the privilege of setting up a valuation based upon the capitalization of estimated savings in royalty payments, and computing depletion

[1] 247 United States 116.

thereon. In the case of the Mohawk Mining Company the Court of Appeals followed the ruling in the Biwabik case and said:

> In *United States* vs. *Biwabik Company* (arising under the Act of 1909) it was ruled, after full consideration, that under a lease practically identical with the Mohawk lease now involved, the nature of the interest held by the lessee was not such as to permit it to claim the allowance, but that the contingencies which attended the character of the lessee's interest barred it from claiming that its capital assets had been diminished. . . . . Holding this view as to the effect which must be given to the decision in the Biwabik case, it follows that the judgment below must be reversed and judgment entered for the defendant; and the case is remanded for that purpose.

It would thus appear that, on appeal to the Supreme Court, there is small chance of the Mohawk Mining Company establishing its right to depletion, unless the Supreme Court reverses itself.

It is most fortunate that the final court has taken this view of lease valuations, for the opposite view would have granted large tax exemptions to thousands of lessee taxpayers throughout the country, and in addition, it would have given legal sanction to poor accounting practice. It is always unsafe to capitalize a prospective future saving. A lessee has really no more right to capitalize an estimated saving on royalties, than would a manufacturer have the right to capitalize an estimated saving on his rent due to an advantageous long-term lease. Both are merely writing up their assets on the basis of an anticipated future saving, and such a practice is contrary to conservative accounting principles.

The framers of the revenue act of 1918 apparently lost sight of these considerations, and in their endeavor to make the law just and equitable inserted in section 234 (*a*) (9) the final sentence—"In the case of leases the deductions allowed by this paragraph shall be equitably apportioned between the lessor and lessee,"—the effect of which is to grant depletion to lessees and nullify the practice of the 1917 law which has been upheld by the Supreme Court in the decisions cited above.

Although a reading of the law indicates that the depletion allowance is to be *apportioned* between the lessor and the lessee, the actual practice of the Treasury Department is not to apportion it, but to determine the depletion allowance separately for each party. For

example, in the illustration used above the lessor received a royalty of 5 cents a ton from the Apex Coal Company. If the land originally cost the lessor practically nothing, which is the case with most lessors, and the surface value is not injured by the extraction of the coal, the depletion allowable on the basis of cost would be nothing, and the entire royalty received of 5 cents a ton would be taxable income. However, since the depletion is based on the March 1, 1913 valuation, instead of cost, the calculation is different. The lessor will receive, according to the mining engineers' estimate, for twenty years after March 1, 1913, an annual royalty of $12,500 which amounts to a total future royalty of $250,000. The present value of this annuity at 4 per cent is $169,878.75, which represents the value of the lessor's interest as of March 1, 1913. This amount divided by the tonnage of 5,000,000 equals 3.3975 cents, the depletion allowance per ton. According to this calculation the taxable income per ton becomes only 1.6025 cents, and the annual income of the lessor is divided as follows: $8,493.75 non-taxable and $4,006.25 taxable. It is thus seen that this method of determining the allowable depletion, which is followed by the department, is of great benefit to the lessor.

If it is granted that the present-value method of valuation does determine the actual fair market value of the lessor's interest as of March 1, 1913, then the foregoing computation is correct, and the lessor in the case above should receive during the life of the property $169,878.75 as a return of capital free from tax. It should be realized, however, that this amount, although termed depletion, is really income to the lessor accrued prior to March 1, 1913, but not realized until later when the coal was mined.

By granting a lessee the right to set up a March 1, 1913 valuation of his lease for the purpose of depletion, the framers of the revenue act of 1918 have granted to lessees a right which was specifically denied them by the ruling of the Supreme Court in the Biwabik case, and thereby have befuddled and complicated the whole situation. The remedy is to go back to the law of 1917, which has been sustained by the courts, and repeal that part of paragraph (9) in section 234 (*a*) which is underlined above, and to add clarity the following sentence could be inserted: "No deduc-

tion for depletion shall be allowed to a lessee, on the basis of a value as of March 1, 1913."

The thirty-day valuation privilege.—Paragraph (9) of section 234 (*a*) contains a most noteworthy provision in regard to depletion as follows:

Provided further, That in the case of mines, oil and gas wells, discovered by the taxpayer, on or after March 1, 1913, and not acquired as the result of purchase of a proven tract or lease, where the fair market value of the property is materially disproportionate to the cost, the depletion allowance shall be based upon the fair market value of the property at the date of the discovery, or within thirty days thereafter; such reasonable allowance in all the above cases to be made under rules and regulations to be prescribed by the Commissioner with the approval of the Secretary.

Articles 219–21, Regulations 45, prescribe the rules under which this valuation for the purpose of depletion may be obtained. There are two requisite conditions precedent to this privilege of revaluations: (1) the fair market value of such property (mine, oil, or gas well) on the date of discovery or within thirty days thereafter, must be materially disproportionate to the cost of such discovery; and (2) the discovery must not be made upon "proven" territory.

The department has never defined with precision what the "discovery of a mine" means, but T.D. 2956 defines the "discovery of an oil or gas well" precisely as follows:

Article 220 (*a*). (1) For the purpose of these sections of the Revenue Act of 1918, an oil or gas well may be said to be discovered when there is either a natural exposure of oil or gas, or a drilling that discloses the actual and physical presence of oil or gas in quantities sufficient to justify commercial exploitation. . . . .

(2) A proven tract or lease may be a part or the whole of a proven area. A proven area for the purposes of this statute shall be presumed to be that portion of the productive sand or zone or reservoir included in a square surface area of 160 acres having as its center the mouth of a well producing oil or gas in commercial quantities. In other words, a producing well shall be presumed to prove that portion of a given sand, zone, or reservoir which is included in an area of 160 acres of land, regardless of private boundaries. . . . .

So much of a taxpayer's tract or lease which lies within an area proven either by himself or by another is "a proven tract or lease" as contemplated by the statute, and the discovery of a well thereon will not entitle such taxpayer to revalue such well for the purpose of depletion allowances, unless the tract or lease had been acquired before it became proven. . . . .

Of all the special sections of the law which Congress intentionally inserted for the purpose of granting relief from taxation, this thirty-day revaluation provision is beyond doubt the most important. The exemption granted in section 213 (*b*) (4) to the interest and compensation received from states and their political subdivisions, is, to be sure, a much greater and more serious exemption, but over this Congress had no control. It was compelled to follow the Supreme Court rulings and exempt this income. In the case of the oil, gas, and mining industries, however, Congress, of its own volition, granted an enormous privilege. It is likely that, had Congress realized the full effect of this special provision upon the taxes of those individuals and corporations which are engaged in developing the mineral resources of the nation, this provision would not have been incorporated in the statute.

The effect of this revaluation privilege is shown by the following illustration. The Y Oil Company is engaged in the production and refining of petroleum, and like all such companies, is constantly endeavoring to bring in new wells and develop new territory for the purpose of maintaining and increasing its production. With this end in view the Y Oil Company acquires a lease on a square mile or 640 acres of probable but unproven oil land, adjacent to its proven territory. Development work is then commenced and the drilling of new wells is started in the most favorable locations at points which are just beyond one-fourth of a mile from the nearest producing well. By arranging the wells properly sixteen wells can be put on 640 acres without any well being within a quarter of a mile of its nearest neighbor.[1]

Each of these wells is drilled in *unproven* territory, since each is outside the boundary of the 160 acres proved by the preceding one. Assuming that ten strike oil in commercial quantities, the Y corporation is given the privilege of making ten separate and distinct revaluations within thirty days after the date of discovery. Six are failures, but ten are profitable wells, yielding an average settled daily production of 200 barrels each. The valuation of

[1] This is on the assumption that there is proven territory on two contiguous sides of the section under consideration. On an isolated square mile twenty-five wells can be located.

each successful well within thirty days after discovery is appraised at $2,000.00 per barrel. This is not an unusual figure considering the high price of oil in 1919 and 1920 when most of these discoveries were made. On this basis the whole ten discovery wells are valued at $4,000,000 for the purpose of depletion.

At first thought it might appear that the Y corporation had now received the total valuation possible under the statute, but a more careful reading of the law reveals that such an opinion is erroneous. Treasury Decision 2956 clearly defines a proven area as "that portion of the productive sand or zone or reservoir included in a square surface area of 160 acres, having as its center the mouth of the well." The sixteen wells mentioned above were drilled only to a depth varying from 800 to 1,000 feet where the first sand was found. The corporation now with a view to the discovery of a lower sand, commences a second development and repeats its previous procedure. New wells are drilled near the old, to a depth of 2,000 feet or greater, where a second productive zone or sand is discovered, which is not unusual. Each of these second-sand wells like the old, is drilled over one quarter of a mile from the nearest second-sand producing well, and therefore, is entitled to a revaluation within thirty days from the date of discovery. In the case of the first-development wells which failed, these would ordinarily be drilled deeper instead of making a wholly new hole. Assuming the same number of failures as in the first development, ten out of the sixteen wells would strike a second pay and yield an average daily production of 200 barrels. Therefore, the discovery of this second sand would increase the valuation by another $4,000,000 and bring the total valuation of this lease, excluding all equipment, to $48,000,000 for the purpose of computing the depletion allowance. Even a third or fourth sand might be discovered, which would lead to still more valuations, but for the purpose of this hypothetical illustration, a third sand will not be considered.

What is the financial effect on the corporation of these discovery valuations? The Y Oil Company obtained the lease on these 640 acres for a one-eighth royalty consideration and expended for casing and other equipment, which is subject to depreciation,

$500,000. The expenditures for drilling and other development charges amounted to another $500,000. Since no bonus was paid for the lease, the actual cost of development, $500,000, is the amount which is returnable through depletion allowances, under the revenue act of 1917. However, under the thirty-day revaluation clause of the revenue act of 1918, the Y Oil Company is granted a capital sum returnable through depletion allowances of $8,000,000, a difference of $7,500,000 which is really a gift in the form of tax-free income, granted by the government to the Y Oil Company because it is engaged in discovering and developing the oil resources of the nation. If the reserves are estimated at 8,000,000 barrels, the depletion allowed by the government is $1.00 per barrel, whereas the depletion actually sustained based on cost is only 6.25 cents per barrel—a gift of tax-free income of 93.75 cents for every barrel produced. When it is remembered that there are, no doubt, thousands of wells brought in yearly which are entitled to this revaluation, it will be realized that this section of the law is unquestionably one of the greatest loopholes of escape from taxation to be found in the entire statute.

The question at once arises: "Why did Congress show such undue favoritism with respect to the oil, gas, and mining industries?" The reason for favoring the mining industry is rather obscure, because there is no apparent shortage of mines. The scarcity and high price of certain mine products, such as coal, is caused by an entirely different reason. With respect to the other industries, the prime reason urged for this drastic exemption was that the country faced a shortage in the production of petroleum and help must be given those taxpayers who are engaged in the development of oil resources of the country, if production is to be increased to meet the dire needs of the country. Congress was, no doubt, impressed by the increasing consumption and decreasing production of petroleum, and it is not surprising that this thirty-day revaluation privilege was slipped into the statute on the ostensible ground that it would greatly stimulate the production of oil.

As a matter of fact, however, it is extremely doubtful whether any new development of oil territory can be truthfully ascribed

to this specific provision in the law. Those engaged in the production of petroleum were spurred on in their effort to develop new territory during the years 1918–21 far more by the ever-ascending prices of the product, than by any section in the federal tax law. Until there is evidence presented to show that oil operators would have discontinued or slowed up new development work, had not this thirty-day revaluation clause been inserted in the law, it must be concluded that this provision does not result in any appreciable increase of oil production, but merely enables certain taxpayers to legally avoid taxation.

For the sake of simplicity, and fairness to all other taxpayers, this discrimination in favor of mining, oil, and gas industries should be repealed.

Gold-mining corporations.—Section 304 (*c*) reads:

> In the case of any corporation engaged in the mining of gold, the portion of the net income derived from the mining of gold shall be exempt from the tax imposed by this title, and the tax on the remaining portion of the net income shall be the proportion of a tax computed without the benefit of this subdivision which such remaining portion of the net income bears to the entire net income.

By exempting the profits of gold-mining from the excess profits tax, it was thought that the production of gold would be stimulated, but as a matter of fact, the reasoning upon which such a consequence is predicated, is not sound. The production of gold depends upon the price of gold in relation to the cost of production. As long as the cost of labor and other expenses incident to the mining of gold remain at the present high level, the operation of those gold mines at or near the margin of production will continue to show little or no profits, and there will be no excess profits or income tax to worry about. At the present time the cost of gold production is so high that some gold mines have discontinued operations, and it is wholly futile to think that these mines can be tempted into resuming their unprofitable gold production by relieving them of the excess profits tax. They will continue to be idle until the cost of operations declines.

It should always be borne in mind that the excess profits tax touches no corporation where the profits are not excessive, and

hence section 304 (*c*) which grants exemption to gold-mining corporations is not necessary. The gold-mining business will be stimulated only if the costs of labor and materials entering into the mining operations decline, so that greater profits can be obtained from the business.[1]

Valuation of property as of March 1, 1913.—Of all the provisions of the law which grant special relief to persons engaged in the development of our mineral resources, the most important is that which provides for depletion allowance based on an appraisal of assets as of March 1, 1913.

The sixteenth amendment to the constitution became effective on March 1, 1913, and as a consequence the court rulings have held that all increase in value of assets prior to that date must be considered as the capital investment of the taxpayer, returnable to him free from tax, whereas all appreciation subsequent to that date is income and subject to taxation. Therefore, if a taxpayer is able to demonstrate that any of his assets had an appreciated value in excess of cost on March 1, 1913, such an appreciated value is returnable to him free from tax in the form of additional depreciation or depletion allowances which reduce the taxable income.

On account of the fact that the year 1913 was in general a period of poor business and low prices, it is well-nigh impossible for a trading or manufacturing business to prove a value for any asset on March 1, 1913, much in excess of cost less depreciation sustained to that date. Consequently, for such taxpayers the cost price controls, and the depreciation allowance is usually not augmented due to appreciation of assets prior to March 1, 1913. In the mining

[1] It may be added that even if the provision referred to were effective in stimulating production of gold, its social value is very doubtful. If gold production is reduced, the effect will presumably be to cause a decline of prices or to retard their further rise. This is on the assumption that business activity tends on the whole to furnish a demand for the bank credit or currency which the new gold reserves make it possible to issue. Should the present depressed condition of business be characteristic of the next few years so that the volume of credit decreases and surplus reserves pile up, it is hard to see how the new gold production can have any important effects, for good or for evil. Should the tendency be toward further expansion and recurrent periods of tight money, the social utility of additional gold supply which would make possible further price inflation and higher prices is at least debatable. In the author's opinion such a development is highly undesirable.

industry, on the other hand, the case is different, because of the fact that the principal asset of a mine is ore lands which may appreciate greatly in value due, not to higher prices, but to new discoveries and explorations prior to March 1, 1913, which revealed an ore body of much greater extent and richness than was known at the date of acquisition.

The problem of ascertaining the March 1, 1913 value of its ore bodies, thus becomes a matter of the utmost importance to a mining corporation. The value to be determined in the words of the law is "*the fair market value of the property on that date* (March 1, 1913)." In other words it is the price that the ore lands would have brought, in the open market, if they had been offered for sale on March 1, 1913. The property in this case is the ore lands, and nothing but this, because it is the ore lands only that could or did appreciate in value prior to that date. The other assets of the corporation could in no case be considered to have advanced in value on that date in the light of the history of that time. The question, therefore, is this: At what price would the ore lands of this corporation have sold, apart from all other assets, if they had been offered for sale in an open competitive market on March 1, 1913? This is not an easy question to answer for several reasons.

In the first place actual sales of ore land rarely took place on or about that date. Most of the mining properties which require large capital for exploitation have not changed hands often, so that the standard of comparative sales about that time is seldom available. Many of the richest properties were acquired in the nineties or earlier, and although there have been reorganizations from time to time, the majority interests have usually remained the same to the present day. Therefore, since the best test of value—actual sales of similar ore lands—is not available, other methods must be used.[1]

Another aspect of this whole question of valuation is that the law contemplates the value of the ore lands only, and not the value of the whole enterprise as a *going concern*. This must be true because the word "property" as used in section 234 (*a*) (9), refers

[1] This would not hold true of coal-mining property, because actual sales and leases of coal lands have frequently occurred.

only to property subject to depletion, which embraces only the ore lands, and excludes all other assets of the business. It is a well-known fact in business that the value of a *going concern* is much in excess of the value of the assets of the same concern if sold separately. The law has reference to but one asset—the ore deposit—and therefore any valuation based upon the sale of the entire enterprise, including plant and equipment, as a going concern is not warranted and should not be allowed. The rejoinder may be that ore lands of the kind under discussion are never sold apart from the plant and equipment used to exploit them, thus the static value desired, as opposed to the going value, is one impossible of practical determination. If this be true, then due allowance should be made therefor, and it should be recognized that the value of the ore lands, on the basis of a going concern, is considerably in excess of the fair market value contemplated by the statute, and should be in some measure reduced.

In the beginning the department clearly realized the dangers involved in allowing a valuation to be based upon the estimated future earnings of the whole enterprise as a going concern, and such a method of valuation was not permitted under preceding laws. Treasury Decision 2446 issued February 7, 1917, and incorporated in Article 172 of Regulations 33 specifically provided:

> In the case of mines (other than oil and gas wells) if the property was acquired prior to March 1, 1913 the amount of invested capital which may be extinguished thru annual depletion deductions from gross income, will be the fair market value of the mine property so acquired, as of March 1, 1913. The value contemplated herein as the basis for depletion deductions authorized by this title *must not be based upon the assumed salable value of the output* under current operative conditions less cost of production, for the reason that the value under such conditions would comprehend the profit to be realized from operation of the property.
>
> Neither must the value determined as of March 1, 1913 be speculative, but must be determined upon the basis of the salable value *en bloc* as of that date, of the entire deposit of minerals contained in the property owned, exclusive of the improvements and development work; that is, the price at which the natural or mineral property as an entirety in its then condition could have been disposed of for cash or its equivalent.
>
> . . . . The precise detailed manner in which the estimated fair market value of mineral deposits as of March 1, 1913 shall be made, must naturally

be determined by each individual or corporation interested and who is the owner thereof, upon such basis as *must not comprehend* any operating profits, the estimate in all cases to be subject to the approval of the Commissioner of Internal Revenue.

It is very evident from this quotation that no valuation based upon future estimated earnings was permitted under the 1917 law and regulations. The revenue act of 1918 with respect to valuations as of March 1, 1913, is the same as the act of 1917, but the regulations promulgated with regard to the determination of the value of mining property are very different. Compare the foregoing specific quotation with the language of Article 206, Regulations 45, as follows:

Where the fair market value of the property at a specified date in lieu of cost thereof is the basis for depletion and depreciation deductions such value must be determined, subject to approval or revision by the Commissioner, by the owner of the property in the light of the conditions and circumstances known at that date, regardless of later discoveries or developments in the property or in methods of mining or extraction. The value sought should be that established assuming a transfer between a willing seller and a willing buyer as of that particular date. No rule or method of determining the fair market value of mineral property is prescribed, but the Commissioner will lend due weight and consideration to any and all factors and evidence having a bearing on the market value, such as cost, actual sales and transfers of similar properties, market value of stock or shares, royalties and rentals, value fixed by the owner for purposes of the capital stock tax, valuation for local or State taxation, partnership accountings, records of litigation in which the value of the property was in question, the amount at which the property may have been inventoried in probate court, disinterested appraisals by approved methods, and other factors.

The method of arriving at the valuation is thus left to the ingenuity of the taxpayer, and no method is specifically prohibited as was the case under the 1917 regulations. As a consequence the taxpayer naturally will select that method which gives him the greatest valuation. What is the evidence that will support this valuation? It is manifest that the actual cost could not be used because usually the cost is far below the value in 1913. The actual sales of similar properties is the real evidence that should control, but as mentioned above, such sales are so infrequent that this evidence is not often available. The market value of the

stock is probably as good an index to the value of the property as can be found in most cases, although there are strong reasons for not placing too much faith in this evidence. The market prices of mining stocks are notoriously based on speculative values rather than on sound investment values, and besides they are subject to wide fluctuations. It would be entirely unsafe to base a valuation on the market quotations prevailing on March 1, 1913. Yet, if long periods of time are taken into consideration so that violent fluctuations offset each other, the average price of the stock during the period is a fairly reliable index as to what value the stockholders place upon their property as a going concern. The trouble is that such a value is almost always in excess of the sale price of the assets of the corporation, for the reason that it includes a certain speculative value attaching to the prospective future earnings of the mine.

Royalties and rentals of ore lands would, of course, be first-class evidence in support of a valuation, but are not always available. The value fixed for the purpose of the capital stock tax is of little significance, because this tax was not in effect in 1913. The assessed value for local taxation is an unreliable guide, because of the great lack of any system or accurate method by which such valuations are determined. Partnership accountings, litigation, and probate court records are very superior evidence, and should by all means govern whenever available. The final evidence suggested by the regulations—"disinterested appraisals by approved methods"—is the most dangerous of all, and yet it is the method which has been used with great success by many mining corporations who have not been slow to realize that an appraisal affords them a greater opportunity of setting up a large valuation as of March 1, 1913, than does any other evidence. As a consequence, the mining corporations have used whenever possible, and the department has accepted, the appraisal method of determining the valuation of the ore in the ground. Furthermore, the method of appraisal in all cases is that commonly known as the present-value method which is based on the prospective estimated future profits of the business—*a method specifically prohibited under 1917 regulations.*

The following illustration, which is no no way exaggerated, shows the consequence of this method of valuation. Let it be assumed that the X Copper Company was organized in the year 1900 with a paid-in capital stock of $1,000,000. Mining claims giving title to extensive ore lands were acquired at a cost of $500,000 and development of the property was commenced. By the year 1913 the property had been developed to a profitable basis and for some years had been paying dividends. The balance sheet as of March 1, 1913, based upon actual cost of the assets showed the following:

BALANCE SHEET OF THE X COPPER COMPANY AS OF MARCH 1, 1913

Assets			Liabilities and Capital	
Ore lands		$ 500,000	Accounts payable	$ 300,000
Underground development		500,000	Capital stock	1,000,000
Plant (buildings and equipment)		1,600,000	Surplus stock	2,300,000
Other assets:				
Accts. rec.	$400,000			
Copper inv.	500,000			
Supplies	100,000			
		1,000,000		
Total		$3,600,000	Total	$3,600,000

An examination of this hypothetical balance sheet indicates that the X company had prospered greatly as the result of its fortunate purchase of an extensive and rich ore deposit, which had justified the construction of a large plant with an annual capacity of 25,000,000 pounds of refined copper. The development and exploration work had revealed that on March 1, 1913, there was still in the ground an assured and probable ore reserve estimated at 500,000,000 pounds of copper. It is evident that the value of the ore lands as of March 1, 1913, is far in excess of its cost in 1900, and therefore an appraisal is made in order to establish a valuation for the purpose of depletion.

The present-value method of appraisal consists simply in a determination of the selling price of the property on March 1, 1913, which would have yielded the purchaser a stated return on his

investment. Since a mine is a wasting asset with only a scrap value when the ore is exhausted, the original investment must be returned to the purchaser in addition to the annual return on the principal. The problem, therefore, becomes one in the determination of the present value of an annuity, but the department has added a refinement to the ordinary annuity valuation by assuming that the sinking fund, accumulated to extinguish the original investment, bears interest compounded at 4 per cent per annum, and furthermore, that the rate of interest yielded the buyer on his investment should be 7 or 8 per cent annually.

An analysis of the cost records showed that the average cost of production in the case of the X Copper Company for the years 1911, 1912, and 1913 up to March 1 was 9.5 cents per pound of refined copper, and the average selling price for the same period was 15.5 cents. The profit per pound is thus 6 cents, which amounts to a yearly profit of $1,500,000 or a total expected profit during the life of the mine, twenty years, of $30,000,000. The specific problem is, therefore, to determine the present value of an annuity of $1,500,000 for twenty years, the investment to yield 8 per cent and the sinking fund to earn 4 per cent annually. By reference to present-value tables it is found that the present value of a total expected profit of $1.00 in twenty years at 8–4 per cent is .440211, which amount multiplied by $30,000,000 equals $13,206,380, the value of the whole mine as of March 1, 1913. As the plant is worth $1,600,000 the balance, $11,606,380 is the value of the ore lands, and as these cost $1,000,000, including development, the appreciation in value is $10,606,380.

After making adjustment for the valuation the balance sheet shows the following:

ADJUSTED BALANCE SHEET AS OF MARCH 1, 1913

Assets		Liabilities and Capital	
Ore lands	$11,106,380	Accounts payable	$ 300,000
Underground development	500,000	Capital stock	1,000,000
Plant	1,600,000	Surplus earned	2,300,000
Other assets	1,000,000	Valuation surplus	10,606,380
Total	$14,206,380	Total	$14,206,380

As a result of this appreciation the rate of depletion has changed from .002 cents a pound based on cost, to .02321276 cents based on the valuation.

It is important to note that this valuation and the depletion allowance derived therefrom is based on several fundamental assumptions as follows: (1) that the entire property is sold as a going concern; (2) that the differential between the cost of production and selling price per pound will remain constant for twenty years; (3) that the estimate of ore reserves is correct; (4) that the annual production of 25,000,000 pounds will be maintained for twenty years.

1. The first assumption that the property is sold as a going business has been discussed above. It is very doubtful that the law contemplated the value of the ore lands as of March 1, 1913, to be determined by the market value of the whole business as a going concern. It is far more probable that the 1917 regulations more correctly interpreted the "fair market value" to mean the value at which the ore lands by themselves could have been sold. The increase in value of the business over cost is, by this method of appraisal, laid wholly upon the ore lands subject to depletion, whereas the increase in value may in large part be due to other causes, such as greater labor and managerial efficiency, favorable transportation facilities, or unusually low smelting and refining costs. Any of these causes would increase the net profit per pound, and thus add to the total valuation, but it is hardly possible that the law intended such circumstances to enlarge the value of the ore in the ground subject to depletion.

2. The assumption that the differential between the cost of production and price received for the copper will remain constant for twenty years is, of course, a very unsafe premise, and one that has not been substantiated by the history of copper prices since 1913. As a matter of fact, copper prices have fluctuated widely from 15 cents in 1914 to 36 cents in the early part of 1917, while production costs have not at all varied in like measure. The history of the copper industry shows clearly that it is unsafe to predict the course of copper prices for a period of even five years, not to mention the life of this property, twenty years. It is also rash

to predict the course of the cost of production in view of the increasing power of labor unions. It is not improbable that the increasing costs of labor and materials may so encroach upon the profit that some of the mines near the margin will be forced to suspend operations long before the ore is exhausted.

3. The science of measuring ore in the bowels of the earth is far from being exact. At best it is only an estimate which may, and often does, fall far short or exceed greatly the actual recoverable ore content.

4. The assumed rate of production can almost never be maintained constant for twenty years, because it is dependent upon such unpleasant contingencies as strikes and lockouts, mine fires, car shortages, and other conditions which curtail and even stop the production entirely at times.

The whole trouble with the present-value method of appraisal is that it is based on several fundamental assumptions which would hold true in a theoretical static condition, but never agree with the facts in the actual, continually changing panorama of practical business conditions. The prediction of future prices and profits in any industry is beyond the power of an engineering or economic science, and any appraisal founded on such a prediction is by necessity only a theoretical guess, and by no means should it be accepted prima facie as the fair market value of the property on March 1, 1913. As evidence in support of a valuation the present-value method of appraisal is distinctly inferior to other forms of evidence, such as average stock prices, values fixed in litigation, etc., because the former is a theoretical figure based on precarious assumptions, while the latter are actual figures taken from real business experience.

If, in the case of a particular mining property, no other actual evidence as to its March 1, 1913, value is available, it may well be urged that the present-value method of appraisal should be used. However, if this method is used, a radical change in the interest rate should certainly be adopted. Instead of discounting the total expected profits of the mine at 8–4 per cent, the rate should not be less than 12–4 per cent, for the reason that mining is universally recognized as a hazardous business and an investor would

not incur the risks incident to the ownership and operation of a mining property unless his investment would yield him at least 12 per cent. An 8 per cent return on a mining venture is insufficient to attract a buyer, and if the property of the X Copper Company had been sold on March 1, 1913, it is wholly in accord with practical business experience that the buyer would not likely have bought the property on an 8 per cent basis, but rather he would have offered a price that would have yielded him not less than 12 per cent.

For the purpose of revealing the full effect of these valuations as of March 1, 1913, upon mining corporations, the history of the X Copper Company will be illustrated by periodical balance sheets and statements, calculated on the assumption that the estimated future profits, on which the valuation is based, are actually realized. The annual income statement is as follows:

Sales, 25,000,000 pounds		$3,875,000
Cost of sales at 9.5 cents		2,375,000
Annual gross profit at 6 cents		1,500,000
Depreciation (5 per cent)	$ 80,000	
Depletion at 2.321276 cents	580,319	
		660,319
Net taxable income		$ 839,681

In the determination of the foregoing deductions for depletion and depreciation the customary practice has been followed of computing depreciation by the straight-line method (5 per cent of cost annually) and of computing depletion per pound by dividing the valuation of the ore by the number of pounds recoverable. It will be noted that this method of calculating the allowances for depreciation and depletion is not strictly in accord with the method of valuation which assumes that the annual total allowances for return of capital are invested in a sinking fund which bears 4 per cent interest. The result of this inconsistency in the practice of the department is to allow a greater deduction for return of capital than the present-value method of valuation theoretically permits, and the remaining taxable income is thereby decreased.

By the end of the year 1913 it is assumed that 25,000,000 pounds have been produced and sold, and the balance sheet would appear as follows:

BALANCE SHEET OF THE X COPPER COMPANY AS OF JANUARY 1, 1914

Assets		Liabilities and Capital	
Ore lands	$11,106,380	Accounts payable	$ 300,000
Underground development	500,000	Reserve for depreciation	80,000
Plant	1,600,000	Reserve for depletion	580,319
Other assets	1,000,000	Undivided profits	839,681
Sinking fund	660,319	Capital stock	1,000,000
Cash for dividends	839,681	Earned surplus	2,300,000
		Valuation surplus	10,606,380
Total	$15,706,380	Total	$15,706,380

The foregoing balance sheet indicates that the allowance for depletion and depreciation has been invested in a sinking fund, and the earnings for the preceding fiscal period, $839,681 have not yet been distributed in dividends. Each year the net profit would be $839,681 and the depletion and depreciation allowance would be $660,319. Seven years later, by January 1, 1921, after all net profit except that for the last year had been distributed in dividends, the balance sheet would show the following:

BALANCE SHEET OF THE X COPPER COMPANY AS OF JANUARY 1, 1921

Assets		Liabilities and Capital	
Ore lands	$11,106,380	Accounts payable	$ 300,000
Underground development	500,000	Reserve for depreciation	640,000
Plant	1,600,000	Reserve for depletion	4,642,552
Other assets	1,000,000	Undivided profits	839,681
Sinking fund	5,282,552	Capital stock	1,000,000
Cash for dividends	839,681	Earned surplus	2,300,000
		Valuation surplus	10,606,380
Total	$20,328,613	Total	$20,328,613

Assuming for the illustration that the sinking fund was invested in First Liberty Loan $3\frac{1}{2}$ per cent bonds, which are tax free, the income statement would show as follows:

INCOME STATEMENT FOR THE YEAR ENDED DECEMBER 31, 1921

Sales (25,000,000 lbs.) at 15.5 cents		$3,875,000
Cost of sales at 9.5 cents		2,375,000
Gross profit		$1,500,000
Allowance for depreciation	$ 80,000	
Allowance for depletion	580,319	
		660,319
Taxable income		$ 839,681
Non-taxable income:		
Interest from sinking fund		184,889
Net income		$1,024,570

The excess profits tax liability is computed as follows:

INVESTED CAPITAL

Capital stock		$1,000,000
Earned surplus		2,300,000
Undivided profits		839,681
Realized appreciation:		
Depletion reserve	$4,642,552	
Depletion on cost at .002 a lb.	400,000	
		4,242,552
Total invested capital		$8,382,233

TAX COMPUTATION

Exemption (8 per cent of invested capital)	$670,578
Specific exemption	3,000
Total exemption	$673,578
Taxable income	839,681
Taxable at 20 per cent	$166,103
Excess profits tax (4 per cent of income)	33,220

From these statements it will be seen that in seven years the realized appreciation of the March 1, 1913, valuation, will have assumed such proportions that the large invested capital will reduce the excess profits tax to only about 4 per cent of the taxable net income. Each year the invested capital will increase and the tax will become less, until on January 1, 1925, the statements would show as follows:

BALANCE SHEET OF THE X COPPER COMPANY AS OF JANUARY 1, 1925

Assets		Liabilities and Capital	
Ore lands	$11,106,380	Accounts payable	$ 300,000
Underground development	500,000	Reserve for depreciation	960,000
Plant	1,600,000	Reserve for depletion	6,963,828
Other assets	1,000,000	Undivided profits	839,681
Sinking fund	7,923,828	Capital stock	1,000,000
Cash for dividends	839,681	Earned surplus	2,300,000
		Valuation surplus	10,606,380
Total	$22,969,889	Total	$22,969,889

INVESTED CAPITAL

Capital stock		$ 1,000,000
Earned surplus		2,300,000
Undivided profits		839,681
Realized appreciation:		
Depletion reserve	$6,963,828	
Depletion based on cost	600,000	
		6,363,828
Invested capital		$10,503,509

TAX COMPUTATION

Exemption 8 per cent	$840,280
Exemption specific	3,000
Total	$843,280
Taxable income	839,681
Excess profits tax	None

It is, therefore, evident that if the reserve for return of capital is invested in an admissible sinking fund, by the end of the twelfth year, January 1, 1925, the invested capital will have increased to such an extent, due to the realized appreciation of the March 1, 1913, valuation, that the corporation will be entirely exempt from any excess profits tax liability. During the last eight years of the life of the mine the X Copper Company will pay no excess profits tax. The annual depletion based on cost amounts to $50,000 at the rate of .002 cents a pound, whereas the rate of depletion based on the valuation is .02321276 cents a pound or $580,319 annually. Hence, the net effect of the valuation is to enable the corporation

to reduce its true profit by an additional depletion allowance of $530,319 annually which is really tax-free income. By "true profit" is meant the difference between the selling price and the cost of production. The appreciated value as of March 1, 1913, is in no sense a true cost of production. It is merely an increase in value or income which took place prior to March 1, 1913, and is, therefore, not taxable.

The importance of the interest rate used in the present-value method of appraisal is seen by the following facts. If the total expected profits of the X Copper Company, $30,000,000, are discounted at 12 per cent, which is none too high for a mining property, the valuation of the whole property becomes $9,766,770 instead of $13,206,380, a difference of $3,439,610 in tax-free income during the life of the property. This would amount to a difference in the annual depletion deduction of $171,980, which is quite an item to hinge upon a mere difference of 4 per cent in the interest rate. It is sometimes argued that the rate is actually larger than 8 per cent because the mine is a wasting asset which becomes less valuable each year, and the income received on the decreasing asset becomes relatively larger each year. This argument is, of course, fallacious because it overlooks the fact that the increasing sinking fund compensates for the decreasing mine assets.

In view of the tremendous consequences flowing from a large March 1, 1913, valuation, it is only natural that the mining companies should in all possible cases avail themselves of this method of appraisal which offers them the greatest opportunity of reducing their taxable income. The question is: "Does this method of appraisal actually establish a fair market value of the ore lands?" With due respect for the opinions of the mining engineers to the contrary, as a practical business man the author would answer in the negative. The valuation arrived at by this method is nothing but a theoretical value of a going concern, based upon several doubtful assumptions, which in the light of recent history have proved incorrect, and in no case should such a valuation be accepted as final evidence of the price at which the ore lands would have been sold in an open market on March 1, 1913. Other evidence of the value on that date is to be preferred.

From the point of view of the government what will be the result of these valuations in future years? It will mean, in short, that the mining corporations which have been allowed to set up these large valuations will escape with little or no excess profits taxation, on account of the large depletion deductions. It is a commonly known fact that the year 1917 was very profitable to those taxpayers engaged in the copper-mining business because of the unheard-of price of copper, which rose to 36 cents before the government regulation. Their profits were great and their excess profits taxes would also have been large, had not relief been given through this method of valuation. Even allowing a depletion rate of as high as $3\frac{1}{2}$ cents a pound, the large profits earned during 1917 and 1918 resulted in considerable tax liability, but this will not be true for the year 1919 and thereafter unless copper prices increase. The chances are, therefore, rather small that the government will get any considerable amount of revenue from these mining companies in the future, and in some cases where the cost of mining is high, the depletion allowance will practically wipe out the entire true profit.

The remedy for this situation is to revise the entire method of determining the fair market value of the ore property as of March 1, 1913. The regulations promulgated in 1917 should be substituted for those in Regulations 45, issued under the 1918 law, and the present-value method of appraisal should not be used for determining valuations except as a last resource when all other evidence is lacking. If there is no other available evidence, which would be true only in rare instances, the rate of interest used in the present-value method of valuation should be increased to at least 12 per cent, and the value thus determined should be further reduced in order to eliminate any value which attaches to the asset as a going concern. If such a procedure were followed in the future, the government would get from these mining corporations millions of dollars in profits taxes which, under present rulings, are lost.

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